

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

ENTROPIC COMMUNICATIONS, LLC,

Plaintiff,

v.

CHARTER COMMUNICATIONS, INC,

Defendant.

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Case No. 2:23-cv-00050-JRG

FIRST AMENDED ANSWER TO FIRST AMENDED COMPLAINT
FOR PATENT INFRINGEMENT

Defendant CHARTER COMMUNICATIONS, INC. (“Charter”) in response to the First Amended Complaint of Entropic Communications, LLC (“Plaintiff”), answers as follows:

GENERAL DENIAL

Charter generally denies each and every allegation contained in the First Amended Complaint and further denies that Plaintiff was damaged in the nature alleged, or in any other manner, or at all.¹

1. Around the turn of the millennium, cable and satellite providers were eager to deploy new and improved services, but they faced a big problem. The providers needed a high-speed data network inside buildings to deliver those services to various rooms. With existing technology, this meant installing new cabling inside each premises to carry the network. Aside from the costly materials themselves, technicians would be forced to spend hours planning the work, cutting and drilling into walls, and fishing cables throughout a building, all while doing so in ways customers might tolerate. The costs would run into the billions of dollars.

ANSWER: The allegations of paragraph 1 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 1, and therefore denies the same.

2. A group of inventors had a vision: what if they could repurpose the already-existing coaxial cables common in buildings to do the job? The challenges were daunting. Existing coaxial cabling was never intended to work this way. The mess of existing coax topologies in homes and businesses was a formidable barrier. The splitter devices used to distribute legacy TV obstructed signals from room-to-room. Making it all work would require nothing less than the invention of a new networking architecture founded upon a host of new technologies.

¹ Charter’s Answer repeats the text of the allegations in Plaintiff’s First Amended Complaint for clarity as to which allegations Charter is responding to. Each of the claims and statements by Plaintiff that is not expressly admitted by Charter is hereby denied and should not be construed as an admission by Charter.

ANSWER: The allegations of paragraph 2 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 2, and therefore denies the same.

3. They succeeded. The inventors' company, called Entropic Communications Inc. ("Entropic Inc."), made the technology work. The company was awarded a portfolio of patents for the advances that made it possible. And the company spearheaded forming a new industry standard for the architecture, commonly called MoCA.

ANSWER: The allegations of paragraph 3 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 3, and therefore denies the same.

4. Today, MoCA is the backbone of data and entertainment services for tens of millions of customers. MoCA is widely used by every major provider in the industry, saving them billions of dollars in costs and avoiding the hassle of re-wiring for providers and customers alike. Unfortunately, the defendants take advantage of MoCA without paying appropriate licensing fees for the technology. This lawsuit is about redressing that wrong.

ANSWER: The allegations of paragraph 4 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 4, and therefore denies the same. Charter expressly denies any allegations of wrongdoing with regard to MoCA technology.

5. Key patents incorporating various elements of technology set forth in the Multimedia over Coax Alliance standards (the "MoCA" standards)² are U.S. Patent Nos. 7,295,518 (the "'518 Patent"), 7,594,249 (the "'249 Patent") (together the "Network Patents"); U.S. Patent Nos. 7,889,759 (the "'759 Patent"), 8,085,802 (the "'802 Patent") (together the "Node Admission Patents"); U.S. Patent Nos. 9,838,213 (the "'213 Patent"), 10,432,422 (the

² Each version of the MoCA standards are referred to herein as "MoCA 1.0," "MoCA 1.1," and "MoCA 2.0."

“’422 Patent”) (together the “PQoS Flows Patents”); U.S. Patent Nos. 8,631,450 (the “’450 Patent”), 8,621,539 (the “’539 Patent”) (together the “Link Maintenance Patents”); U.S. Patent No. 8,320,566 (the “’0,566 Patent” or the “OFDMA Patent”); U.S. Patent No. 10,257,566 (the “’7,566 Patent” or the “Network Coordinator Patent”); U.S. Patent No. 8,228,910 (the “’910 Patent” or the “Packet Aggregation Patent”); U.S. Patent No. 8,363,681 (the “’681 Patent” or the “Clock Sync Patent”).

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 5, and therefore denies the same.

6. This is a civil action arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, including specifically 35 U.S.C. § 271, based on defendant’s infringement of the ’518 and ’249 Patents; the ’759 and ’802 Patents; the ’450 and ’539 Patents; and the ’7,566 Patent³ (collectively the “Patents-in-Suit” or “Asserted Patents”).

ANSWER: Charter admits that this purports to be a civil action arising under the patent laws of the United States and that it identifies the Patents-in-Suit. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 6, and therefore denies the same.

THE PARTIES

7. Entropic is a Delaware limited liability company with an office at 7150 Preston Road, Suite 300, Plano, Texas 75024.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 7, and therefore denies the same.

8. Entropic is the owner by assignment to all right, title, and interest to the Patents-in-Suit. Entropic is the successor-in-interest for the Patents-in-Suit.

³ Entropic has filed a second, related lawsuit in this Judicial District regarding Charter’s infringement of the ’213 Patent, the ’422 Patent, the ’0,566 Patent, the ’910 Patent, and the ’681 Patent.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 8, and therefore denies the same.

9. Upon information and belief, Defendant Charter Communications, Inc. is a corporation established under the laws of the State of Delaware, with a principal place of business at 400 Washington St., Stamford, Connecticut 06902.

ANSWER: Charter admits that it is incorporated under the laws of the State of Delaware, with a principal place of business at 400 Washington Blvd., Stamford, CT 06902. Charter denies the remaining allegations in paragraph 9 of the First Amended Complaint.

10. Charter Communications, Inc. has a registered agent in Texas, Corporation Service Company d/b/a CSC - Lawyers Incorporating Service Company, located at 211 East 7th Street, Suite 620, Austin, Texas 78701.

ANSWER: Charter admits that it has a registered agent, Corporation Service Company d/b/a CSC - Lawyers Incorporating Service Company, located at 211 East 7th Street, Suite 620, Austin, Texas 78701. Charter denies the remaining allegations in paragraph 10 of the First Amended Complaint.

11. According to its website, <https://corporate.charter.com/about-charter>, “Charter Communications, Inc. (NASDAQ:CHTR) is a leading broadband connectivity company and cable operator serving more than 32 million customers in 41 states through its Spectrum brand.”

ANSWER: Charter admits that the quote in paragraph 11 as of the filing of this Answer appears on the webpage <https://corporate.charter.com/about-charter>. Charter denies the remaining allegations in paragraph 11 of the First Amended Complaint.

12. Charter owns or leases, and maintains and operates several stores in this district by and through subsidiary limited liability companies that it manages and controls, including Spectrum Gulf Coast LLC, and negotiates and signs agreements on Spectrum Gulf Coast's behalf.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary owns or leases, and maintains and operates, the Spectrum stores in this District. Charter denies the remaining allegations in paragraph 12 of the First Amended Complaint.

13. Charter is the corporate manager of its subsidiary LLCs that own or lease property in this district, that employ employees in this district, and that own, store, sell, demonstrate, and lease equipment in this district. Charter has the right to exercise near total control of each entity's operations through its LLC agreements with each entity.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary employs personnel that install, service, repair, and/or replace equipment. Charter further admits that a separate and distinct subsidiary owns or stores equipment. The remaining allegations of paragraph 13 are too vague to be understood, and Charter denies the remaining allegations in paragraph 13 of the First Amended Complaint. .

14. In each of those stores, Charter owns and stores equipment such as modems and set top boxes ("STBs"), including the Accused MoCA Instrumentalities (defined below) and demonstrates the Accused Services (defined below) provided via those products to Charter customers by and through subsidiary limited liability companies that it manages and controls.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary owns or stores equipment

such as modems and set top boxes. Charter further admits that a separate and distinct subsidiary leases or owns, and maintains and operates, the Spectrum stores in this District. Charter denies the remaining allegations in paragraph 14 of the First Amended Complaint.

15. Charter employs and/or contracts with persons and directs them to install, service, repair and/or replace equipment, as appropriate, in this district by and through subsidiary limited liability companies that it manages and controls.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary employs and/or contracts personnel that install, service, repair, and/or replace equipment. Charter denies the remaining allegations in paragraph 15 of the First Amended Complaint.

16. Charter is the corporate manager of its subsidiary LLCs that own or lease property in this district, that employ employees in this district, and that own, store, sell, demonstrate, and lease equipment in this district. Charter has the right to exercise near total control of each entity's operations through its LLC agreements with each entity.

ANSWER: Charter admits that it has been appointed as the manager of different limited liability companies, and that a separate and distinct subsidiary owns or leases Spectrum stores in this District. Charter further admits that a separate and distinct subsidiary owns and stores equipment and that a separate and distinct subsidiary employs personnel. Charter denies the remaining allegations in paragraph 16 of the First Amended Complaint.

17. As further alleged herein, this Court has personal jurisdiction over Charter, and venue is proper in this Judicial District.

ANSWER: This paragraph calls for legal conclusions for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 17 of the First Amended Complaint.

PRESUIT DISCUSSIONS

18. Prior to filing this Complaint, Entropic sent a communication by physical means to Charter on April 27, 2022, in an attempt to engage Charter and/or its agents in good faith licensing discussions regarding Entropic's patent portfolio, including the Patents-in-Suit. On December 23, 2022 and January 2, 2023, Entropic sent Charter another communication by both physical and electronic means regarding a separate license to Entropic's patents for the field of the standardized networking technology commonly called MoCA, and also seeking to discuss with Charter a typical non-disclosure agreement in order to share such information.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022, on or around the same day it was sued by Entropic in an unrelated litigation, which did not mention MoCA. Charter further admits that it received a letter from Entropic on or around January 5, 2023 that raised MoCA for the first time but did not identify a single patent number. Charter responded to Entropic's January 5th letter on January 27, 2023 requesting that Entropic provide basic information including, but not limited to, the patent numbers and an explanation of how any Charter products allegedly infringe any Entropic patents. Rather than provide this basic information requested and proceed in good faith, Entropic filed this (and two other) additional complaints against Charter. Charter denies that any of Entropic's pre-suit correspondence with Charter was intended to engage in good faith licensing negotiations. Charter denies the remaining allegations of paragraph 18.

ENTROPIC'S LEGACY AS AN INNOVATOR

19. Entropic Inc., the predecessor-in-interest to Entropic as to the Patents-in-Suit, was founded in San Diego, California in 2001 by Dr. Anton Monk, Itzhak Gurantz, Ladd El Wardani and others. Entropic Inc. was exclusively responsible for the development of the initial versions of the MoCA standards, including MoCA 1.0, ratified in 2006, MoCA 1.1, ratified in 2007, and was instrumental in the development of MoCA 2.0, ratified in 2010. It also developed Direct Broadcast Satellite (“DBS”) Outdoor Unit (“ODU”) single wire technology, and System-on-Chip (“SoC”) solutions for set-top boxes (STBs) in the home television and home video markets.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 19 of the First Amended Complaint, and therefore denies the same.

20. Under the technical guidance of Dr. Monk, Entropic Inc. grew to be publicly listed on the NASDAQ in 2007. After the public listing, the company acquired RF Magic, Inc. in 2007, a company specializing in DBS ODU technology and related hardware.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 20 of the First Amended Complaint, and therefore denies the same.

21. Additional growth between 2007 and 2015 bolstered the technical expertise of Entropic Inc. with respect to signal acquisition, stacking, filtering, processing, and distribution for STBs and cable modems.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 21 of the First Amended Complaint, and therefore denies the same.

22. For years, Entropic Inc. pioneered innovative networking technologies, as well as television and internet related technologies. These technologies simplified the installation required to support wideband reception of multiple channels for demodulation, improved home internet performance, and enabled more efficient and responsive troubleshooting and upstream signal management for cable providers. These innovations represented significant advances in the field, simplified the implementation of those advances, and reduced expenses for providers and customers alike.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 22 of the First Amended Complaint, and therefore denies the same.

23. In 2015, MaxLinear, Inc. (“MaxLinear”)—a leading provider of radio-frequency, analog, digital, and mixed-signal semiconductor solutions—acquired Entropic Inc., and the pioneering intellectual property developed by Dr. Monk and his team.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 23 of the First Amended Complaint, and therefore denies the same.

24. In 2021, Plaintiff Entropic was established and MaxLinear transferred to Entropic a portfolio of intellectual property representing the Entropic and MaxLinear innovation in the cable and satellite services markets.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 24 of the First Amended Complaint, and therefore denies the same.

MOCA® AND THE MOCA® STANDARDS

25. MoCA is an alliance of companies that operate in the field of technology associated with providing multimedia services, such as television operators, consumer electronics, manufacturers, semiconductor vendors, and original equipment manufacturers (OEMs). MoCA has developed and published a standard governing the operation of devices using existing coaxial cable.

ANSWER: Charter admits that the Multimedia over Coax Alliance (“MoCA”) is an organization of members which publishes standards for providing multimedia services over coax cable. The remaining allegations of paragraph 25 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 25 of the First Amended Complaint, and therefore denies the same.

26. By the year 2000, cable and satellite providers were facing the problem of distributing services as data between the various locations in a dwelling where desired by customers. This would require a full digital network, capable of communication between any node in the network, in any direction. Traditional computer networking such as Ethernet provided some of the functionality, but the cabling necessary for Ethernet or the like was (and is) very expensive to install.

ANSWER: The allegations of paragraph 26 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 26 of the First Amended Complaint, and therefore denies the same.

27. At the time, millions of dwellings and businesses across the United States often already had existing coaxial cable (“coax”) deployed throughout the premises to provide traditional television programming services to various rooms. However, this cabling was not designed or envisaged as a two-way and point-to-point network, nor a network capable of carrying high speed digital data traffic. The coax was deployed as a “tree” topology which simply splits the signal coming from an external source (the cable or satellite feed) for distribution of video content to the various locations on the premises in the “downlink” direction only. Thus, it was impossible to simply use this existing cable to make the new point-to-point

high-quality network connections between devices located on the premises desired by the cable and satellite providers.

ANSWER: The allegations of paragraph 27 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations, and therefore denies the same.

28. Entropic Inc. tackled the problem and managed what was considered unlikely or impossible—to make a high-speed point-to-point digital communication network using existing coax installations. This required substantial inventive effort that is embodied by the Patents-in-Suit. For example, one of the significant challenges faced by Entropic Inc. was the varying nature of the exact topology of existing on-premises coax infrastructure that a network architecture would have to handle. The topology and types of devices (such as passive or active splitters, their characteristics, etc.) greatly influence the environment for signals transferred from node to node.

ANSWER: The allegations of paragraph 28 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations, and therefore denies the same.

29. Entropic Inc. later founded an organization to standardize the networking architecture and promote its use. This became known as the Multimedia over Coax Alliance, or “MoCA.” That acronym has also come into common usage as the name given to the networking architecture itself—now embodied in the MoCA standards. The technology defined in the MoCA standards enables the point-to-point high-quality network so badly needed by cable and satellite providers. Crucially it also provides the operators the ability to deploy their services without the enormously costly effort of installing Ethernet or similar cabling to carry the data.

ANSWER: Charter admits the acronym MoCA refers to the Multimedia over Coax Alliance and that MoCA has published standards for providing multimedia services over coax cable. The remaining allegations of paragraph 29 are too vague to be understood, and Charter

lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 29 of the First Amended Complaint, and therefore denies the same.

30. There have been several iterations of the MoCA standards, beginning with MoCA 1.0, which was ratified in 2006. Since 2006, MoCA has ratified subsequent versions of the MoCA standards, including MoCA 1.1 and MoCA 2.0.

ANSWER: Charter admits that MoCA has published various versions of its standards, including MoCA 1.0, MoCA 1.1, and MoCA 2.0. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 30 of the First Amended Complaint, and therefore denies the same.

31. The MoCA standards ensure network robustness along with inherent low packet error rate performance and very low latency that is relatively independent of network load. The logical network model of the MoCA network is significantly different from the underlying on-premises legacy coaxial network. For example, due to the effects of splitter jumping and reflections, the channel characteristics for a link between two MoCA nodes may be dramatically different from a link between any other two MoCA nodes.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 31 of the First Amended Complaint, and therefore denies the same.

32. **The Network Patents (the '518 and '249 Patents) and the OFDMA Patent (the '0,566 Patent)** describe MoCA networks, including how data communicated via MoCA networks is modulated by full-mesh pre-equalization techniques known as Adaptive Constellation Multitone (ACMT), a form of OFDM modulation.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 32 of the First Amended Complaint, and therefore denies the same.

33. As described in the **Network Coordinator Patent (the '7,566 Patent) and the Node Admission Patents (the '759 and '802 Patents)**, a particular MoCA node, known as a

Network Coordinator, controls the admission of nodes to the MoCA Network. The Network Coordinator sends out a variety of data packets using a modulation profile that all the MoCA nodes can receive. For broadcast and multicast transmissions, a broadcast bitloading profile can be calculated and used for each node receiving the transmissions in the MoCA network.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 33 of the First Amended Complaint, and therefore denies the same.

34. MoCA nodes use a modulation profile for every point-to-point link. A variety of probe messages are transmitted by the MoCA nodes and used to create modulation profiles, optimize performance, and allow for various calibration mechanisms. In order to maintain network performance as network conditions change, the MoCA standards define techniques to maintain optimized point-to-point and broadcast links between all of the MoCA nodes. The **Link Maintenance Patents (the '450 and '539 Patents)** describe link maintenance operations involving the processing of probe messages at regular intervals to recalculate parameters such as modulation profile and transmit power.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 34 of the First Amended Complaint, and therefore denies the same.

35. This MoCA network allows for devices (MoCA nodes) connected to a MoCA network to communicate data formatted in a variety of formats. **The Packet Aggregation Patent (the '910 Patent)**, for example, describes the communication of data packets in an Ethernet format, via the on-premises coaxial network without the need to deploy a separate physical network on the premises.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 35 of the First Amended Complaint, and therefore denies the same.

36. **The Clock Sync Patent (the '681 Patent)** describes the synchronization of the clocks of each MoCA node in the network with a master clock provided by the Network Coordinator as these transmissions are fully coordinated.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 36 of the First Amended Complaint, and therefore denies the same.

37. The MoCA standards and the **PQoS Flow Patents (the '213 and '422 Patents)** describe how particular MoCA nodes can request additional network resources and/or transmission opportunities. This allows the MoCA node to transfer data more quickly across the MoCA network by borrowing resources that have been scheduled to other MoCA nodes.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 37 of the First Amended Complaint, and therefore denies the same.

38. These technological developments enable users to avoid the significant costs associated with rewiring their home or business in order to deploy a number of devices throughout the premises. Further, these technological developments allow services requiring reliable, high-speed data and video communications to be provided to the user while utilizing the on-premises coaxial network already present in the user's home or business.

ANSWER: The allegations of paragraph 38 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 38 of the First Amended Complaint, and therefore denies the same.

39. Entropic Inc. spearheaded MoCA, and its founders are the inventors of several patents that cover various mandatory aspects of the MoCA standards. In other words, by conforming to the MoCA standards, a product necessarily practices those patents, either by itself, as a part of a MoCA-compliant system, or in the method in which it operates.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 39 of the First Amended Complaint, and therefore denies the same.

**THE ACCUSED MOCA INSTRUMENTALITIES AND
ACCUSED SERVICES**

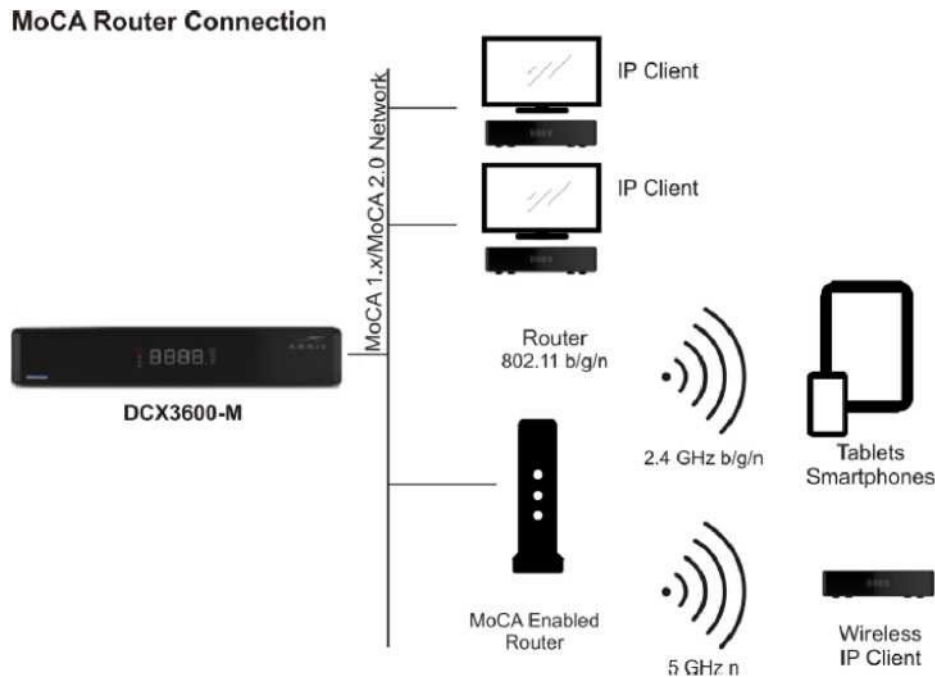
40. Charter utilizes various instrumentalities, deployable as nodes in a MoCA-compliant coaxial cable network.

ANSWER: The allegations of paragraph 40 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 40 of the First Amended Complaint, and therefore denies the same.

41. Charter deploys the instrumentalities to, *inter alia*, provide a whole-premises DVR network over an on-premises coaxial cable network, with products including Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220 (and devices that operate in a similar manner) serving as nodes operating with data connections compliant with MoCA 1.0, 1.1, and/or 2.0. Such components are referred to herein as the “Accused MoCA Instrumentalities.” The MoCA-compliant services offered by Charter employing the Accused MoCA Instrumentalities, including the operation of a MoCA-compliant network in which such instrumentalities are deployed, are referred to herein as the “Accused Services.”

ANSWER: The allegations of paragraph 41 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 41 of the First Amended Complaint, and therefore denies the same.

42. An exemplary illustration of the topology of various Accused MoCA Instrumentalities in a Charter deployment is pictured below.⁴



ANSWER: Figure 5 - A Typical Mixed MoCA/WiFi Home Network

ANSWER: The allegations of paragraph 42 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 42 of the First Amended Complaint, and therefore denies the same.

43. Upon information and belief, the Accused MoCA Instrumentalities form networks over a coaxial cable network in accordance with MoCA 1.0, 1.1, and/or 2.0.

ANSWER: The allegations of paragraph 43 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 43 of the First Amended Complaint, and therefore denies the same.

⁴ This is an example of the products used in the infringing network and is not intended to limit the scope of products accused of infringement.

44. Charter's business includes the provision of Accused Services to its customers, by means of the Accused MoCA Instrumentalities.

ANSWER: The allegations of paragraph 44 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 44 of the First Amended Complaint, and therefore denies the same.

45. Most commonly, the Accused Services are offered and provided in exchange for fees paid to Charter.

ANSWER: The allegations of paragraph 45 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 45 of the First Amended Complaint, and therefore denies the same.

46. Charter itself also sometimes tests and demonstrates the Accused Services, by means of the Accused MoCA Instrumentalities.

ANSWER: The allegations of paragraph 46 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 46 of the First Amended Complaint, and therefore denies the same.

47. In some deployments of the Accused MoCA Instrumentalities and the performance of the Accused Services, Charter uses one or more of: the Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220 (and similarly operating devices) to provide signals, programming and content utilizing a data connection carried over a coaxial cable network in accordance with the MoCA standards.

ANSWER: The allegations of paragraph 47 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 47, and therefore denies the same.

48. Time Warner Cable was a cable television company acquired by Charter in or about 2016.

ANSWER: Charter admits that Time Warner Cable was a cable television company acquired by Charter in or around 2016.

49. In January 2011, Mike Hayashi, in his capacity as Time Warner Cable's executive vice president of advanced engineering, announced that "Entropic's commitment to MoCA 2.0 advancements assures Time Warner Cable that our early investments in MoCA can be seamlessly transitioned to customers' interests for new services, applications, and architectures."⁵

ANSWER: Charter admits that the article cited by Entropic purports to include the quote in paragraph 49 of the First Amended Complaint attributed to Mike Hayashi. Charter lacks knowledge or information sufficient to form a belief about the truth of remaining allegations in paragraph 49, and therefore denies the same.

50. Upon information and belief, Mr. Hayashi and/or other authorized Time Warner personnel authorized the publication and attribution of the preceding quotation to Mr. Hayashi.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 50, and therefore denies the same.

51. Charter was aware of its deployment and use of MoCA at least as early as the later of its involvement with MoCA and six years prior to the filing of this complaint.

ANSWER: The allegations of paragraph 51 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 51, and therefore denies the same.

52. Upon information and belief, Charter was aware that Entropic Inc. invented technology underlying the MoCA standards. Accordingly, such Entropic, Inc. technology would be incorporated into any instrumentality compliant with the MoCA standards.

ANSWER: Charter denies the allegations in paragraph 52 of the First Amended Complaint.

⁵ <https://www.globenewswire.com/news-release/2011/01/06/437282/9308/en/Entropic-Communications-Unveils-World-s-First-MoCA-2-0-Solution.html>

53. Upon information and belief, Charter's predecessor-in-interest Time Warner Cable was a contributing member of MoCA from at least February 2010 through September 2016, which provided Time Warner full access to all then-existing versions of the MoCA standards.

ANSWER: Charter admits that its predecessor-in-interest Time Warner Cable was a member of MoCA since at least July 2008, which creates an obligation for Entropic to license its patents essential to MoCA standards, such as the Patents-in-Suit, on fair, reasonable, and non-discriminatory ("FRAND") terms. Charter denies the remaining allegations in paragraph 53 of the First Amended Complaint.

54. Upon information and belief, Charter and/or its subsidiaries was a contributing member of MoCA from at least September 2016 through September 2017, which provided Charter full access to all then-existing versions of the MoCA standards.

ANSWER: Charter admits that Charter by and through its indirectly and wholly owned affiliates was a member of MoCA since at least 2016, which creates an obligation for Entropic to license its patents essential to MoCA standards, such as the Patents-in-Suit, on fair, reasonable, and non-discriminatory ("FRAND") terms. Charter denies the remaining allegations in paragraph 54 of the First Amended Complaint.

55. Upon information and belief, Charter was aware that Entropic Inc. intended to and did pursue patent protection for technology related to MoCA, at least as early as the later of its involvement with MoCA and the issue date of the Asserted Patents.

ANSWER: Charter denies the allegations in paragraph 55 of the First Amended Complaint.

56. When Charter obtained, deployed and/or used instrumentalities with MoCA functionality not provided by Entropic Inc., Charter knew or should have known that Entropic Inc. had provided no authorization for such activities, for example by a patent license.

ANSWER: Charter denies the allegations in paragraph 56 of the First Amended Complaint.

57. Upon information and belief, when Charter obtained, deployed and/or used instrumentalities with MoCA functionality not provided by Entropic Inc., Charter failed to investigate whether Entropic Inc. authorized the use of Entropic Inc.'s patents for such activity.

ANSWER: The allegations of paragraph 57 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 57, and therefore denies the same.

58. Alternatively, upon information and belief, when Charter obtained, deployed and/or used instrumentalities with MoCA functionality not provided by Entropic Inc., Charter knew the use of Entropic Inc.'s patents for such activity was not authorized by Entropic Inc.

ANSWER: Charter expressly denies that it had pre-suit knowledge of the asserted patents. Charter denies the remaining allegations in paragraph 58 of the First Amended Complaint.

JURISDICTION AND VENUE

59. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because the claims herein arise under the patent laws of the United States, 35 U.S.C. § 1 et seq., including 35 U.S.C. § 271.

ANSWER: This paragraph contains legal conclusions for which no response is required. To the extent a response is required, Charter admits that this is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 et seq. Charter

admits that this Court has subject matter jurisdiction over the allegations as pleaded under 28 U.S.C. §§ 1331 and 1338(a). Except as expressly admitted, Charter denies the allegations in paragraph 59 of the First Amended Complaint.

60. Venue in this Judicial District of the Eastern District of Texas (“District”) is proper pursuant to 28 U.S.C. § 1400(b), because Charter has regular and established places of business in this Judicial District. Charter, by itself and/or through its agents, has committed acts of patent infringement within the State of Texas and in this Judicial District by making, importing, using, selling, offering for sale, and/or leasing the Accused MoCA Instrumentalities, as well as Accused Services employing the Accused MoCA Instrumentalities that comply with MoCA 1.0, 1.1, and/or 2.0.

ANSWER: This paragraph contains legal conclusions for which no response is required. *See* Dkt. 66.

61. Charter, together with its controlled subsidiaries, is a cable operator that provides the Accused Services through the Accused MoCA Instrumentalities to subscribers under the Spectrum brand.

ANSWER: Charter admits that by and through its affiliates, it provides cable services to subscribers under the brand name “Spectrum.” Charter denies the remaining allegations in paragraph 61 of the First Amended Complaint.

62. Charter has represented in proceedings before the United States International Trade Commission that Charter, together with its controlled subsidiaries, is a cable operator that provides television services through digital set-top boxes to subscribers under the Spectrum brand.

ANSWER: The allegations of paragraph 62 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 62, and therefore denies the same.

63. This Court has general personal jurisdiction over Charter because Charter conducts systematic and regular business within the State of Texas by, *inter alia* providing cable television, internet, and phone services to businesses and residents throughout this State and this Judicial District.

ANSWER: Charter denies the allegations in paragraph 63 of the First Amended Complaint.

64. Charter has a regular and established place of business in this Judicial District at 1414 Summit Ave., Plano, Texas 75074.

ANSWER: Charter denies the allegations in paragraph 64 of the First Amended Complaint.

65. The Court has specific personal jurisdiction over Charter because it has committed acts of infringement within the State of Texas and this Judicial District through, for example, making infringing networks using the Accused MoCA Instrumentalities, and using the Accused MoCA Instrumentalities to provide the Accused Services throughout the United States and in this Judicial District.

ANSWER: Charter denies the allegations in paragraph 65 of the First Amended Complaint.

66. Upon information and belief, Charter, by itself and/or through its controlled subsidiaries, offers various telecommunication services throughout the United States. Charter operates and maintains a nationwide television and data network through which Charter sells,

leases, and offers for sale products and services, including the Accused MoCA Instrumentalities, to businesses, consumers, and government agencies. Through its subsidiaries, Charter offers to sell, sells, and provides Spectrum branded products and services, including, set top boxes and digital video, audio, and other content services to customers. Subscribers to Charter's television services receive one or more receivers and/or set-top boxes, within this Judicial District.

ANSWER: Charter admits that it by and through its affiliates provides telecommunication services throughout the United States. The remaining allegations of paragraph 66 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 66, and therefore denies the same.

67. Upon information and belief, the Accused Services are provided through and using the Accused MoCA Instrumentalities.

ANSWER: The allegations of paragraph 67 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 67, and therefore denies the same.


68. Upon information and belief, Charter by itself, and/or through its agents owns, and or operates its businesses through *inter alia*, offices, Spectrum-branded storefronts, and/or other operational locations within the State of Texas and this Judicial District including, for example, at Spectrum stores located at 700 Alma Dr., Plano, Texas 75075; 2100 N. Dallas Pkwy, Plano, Texas 75075; and 4255-A Dowlen Rd., Beaumont, Texas 77706. Charter holds out these locations as its own through the use of its Spectrum branding on the locations themselves.

ANSWER: Charter admits that a separate and distinct subsidiary owns and operates Spectrum stores located within the Eastern District of Texas at 700 Alma Dr., Plano, Texas

75075, 2100 N. Dallas Pkwy, Plano, Texas 75075, and 4255-A Dowlen Rd., Beaumont, Texas 77706. Charter denies the remaining allegations in paragraph 68 of this First Amended Complaint.

69. The Accused MoCA Instrumentalities provided by Charter to supply the Accused Services are provided to customers in this district and may be obtained by customers from physical locations in this district, including those at 700 Alma Dr., Plano, Texas 75075; 2100 N. Dallas Pkwy, Plano, Texas 75075; and 4255-A Dowlen Rd., Beaumont, Texas 77706.

ANSWER: Charter admits that a separate and distinct subsidiary owns and operates Spectrum stores in this District that offer television, phone, and internet services. Charter denies the remaining allegations in paragraph 69 of this First Amended Complaint.

70. Each of the above locations features the  logo. According to Charter's website, <https://corporate.charter.com/about-charter>, this logo refers to "a suite of advanced broadband services offered by Charter Communications, Inc."

ANSWER: Charter admits that the image contained in paragraph 70 of the First Amended Complaint features the Spectrum logo. Charter also admits that the website <https://corporate.charter.com/about-charter> states, "Spectrum is a suite of advanced broadband services offered by Charter Communications, Inc." Except as expressly admitted, Charter denies the remaining allegations in paragraph 70 of this First Amended Complaint.

71. Upon information and belief, Charter, by itself, and/or through its agents own and/or lease the premises where these Spectrum stores are located.

ANSWER: Charter admits that a separate and distinct subsidiary owns or leases Spectrum stores in this District. The remaining allegations of paragraph 71 are too vague to be

understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 71, and therefore denies the same.

72. Upon information and belief, these Spectrum stores are staffed by persons directly employed by Charter, many of whom live in this Judicial District.

ANSWER: Charter admits that a separate and distinct subsidiary employs personnel related to the Spectrum stores in this District. The remaining allegations of paragraph 72 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 72, and therefore denies the same.

73. Upon information and belief, Charter has engaged in regular and established business at physical places within this Judicial District such as at these Spectrum stores.

ANSWER: Charter denies the allegations in paragraph 73 of the First Amended Complaint.

74. Upon information and belief, Charter employs and/or contracts with persons and directs them to install, service, repair, and/or replace equipment, as appropriate, in this Judicial District.

ANSWER: Charter admits that a separate and distinct subsidiary employs personnel that install, service, repair, and/or replace equipment. The remaining allegations of paragraph 74 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 74, and therefore denies the same.

75. Upon information and belief, in each of these stores and/or service centers, Charter owns and stores the Accused MoCA Instrumentalities and demonstrates the Accused Services provided via those products to Charter customers.

ANSWER: Charter admits that a separate and distinct subsidiary owns or stores equipment such as modems and set top boxes. The remaining allegations of paragraph 75 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 75, and therefore denies the same.

76. Upon information and belief, Charter's regular and established places of business within this Judicial District are used to conduct Charter's business, i.e. the provision of "Charter/Spectrum" cable television and internet services (which includes the Accused Services), and the maintenance and operation of communications networks within this Judicial District.

ANSWER: The allegations of paragraph 76 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 76, and therefore denies the same.

77. Venue is further proper because Charter has committed and continues to commit acts of patent infringement in this Judicial District, including, making, using, importing, offering to sell, and/or selling Accused Services and Accused MoCA Instrumentalities, and MoCA networks, and thereafter providing Accused Services in this Judicial District, including by Internet sales and sales via retail and wholesale stores. Furthermore, for example, Charter deploys Accused MoCA Instrumentalities to many thousands of locations (customer premises) in this Judicial District and subsequently, by means of the Accused MoCA Instrumentalities, uses the claimed inventions at those locations in this Judicial District. Charter infringes by inducing and contributing to acts of patent infringement in this Judicial District and/or committing at least a portion of any other infringement alleged herein in this Judicial District.

ANSWER: This paragraph contains legal conclusions for which no response is required. *See* Dkt. 66..

78. Charter continues to conduct business in this Judicial District, including the acts and activities described in the preceding paragraph.

ANSWER: The allegations of paragraph 78 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 78 of the First Amended Complaint, and therefore denies the same.

COUNT I

(Infringement of the '518 Patent)

79. Entropic incorporates by reference each allegation of Paragraphs 1 through 78.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 78 of the First Amended Complaint.

80. The '518 Patent duly issued on November 13, 2007 from an application filed December 18, 2002, an application filed August 29, 2002 and, *inter alia*, a provisional application filed August 30, 2001.

ANSWER: Charter admits that the face of the '518 patent bears an issue date of November 13, 2007, a filing date of December 18, 2002, and lists related application data including an application filed on August 29, 2002, and a provisional application filed on August 30, 2001. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 80, and therefore denies the same.

81. Entropic owns all substantial rights, interest, and title in and to the '518 Patent, including the sole and exclusive right to prosecute this action and enforce the '518 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 81, and therefore denies the same.

82. The '518 Patent is one of the Network Patents, and is generally directed to, *inter alia*, broadband local area data networks using on-premises coaxial cable wiring for interconnection of devices. Probe messages can be “sent between devices to characterize the communication channel and determine optimum bit loading” for communicating data between devices. '518 Patent, Abstract. The '518 Patent has four claims, of which claims 1 and 4 are independent. At least these claims of the '518 Patent are directed to the creation of the MoCA network using the on-premises coaxial cable wiring. A true and accurate copy of the '518 Patent is attached hereto as Exhibit 1.

ANSWER: Charter admits that Exhibit 1 purports to be a copy of the '518 patent. Charter admits that the '518 patent has four claims on its face and that claims 1 and 4 on the face of the '518 patent are independent claims. Charter denies the remaining allegations in paragraph 82.

83. The '518 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 83.

84. The '518 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 84.

85. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 85 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 85, and therefore denies the same.

86. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 86 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 86 of the First Amended Complaint, and therefore denies the same.

87. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 87 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 87 of the First Amended Complaint, and therefore denies the same.

88. As set forth in the attached non-limiting claim chart (Exhibit 2), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 1 of the '518 Patent.

ANSWER: Charter admits that Exhibit 2 purports to be an "Exemplary Infringement Chart" relating to the '518 patent. Charter denies the remaining allegations in paragraph 88 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '518 patent.

89. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 89 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 89 of the First Amended Complaint, and therefore denies the same.

90. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 90 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 90 of the First Amended Complaint, and therefore denies the same.

91. The Accused MoCA Instrumentalities are compliant with the provisions of MoCA 1.0, 1.1., and/or 2.0, as described in the '518 Patent claim chart, Exhibit 2.

ANSWER: The allegations of paragraph 91 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 91 of the First Amended Complaint, and therefore denies the same.

92. Charter therefore directly infringes at least claim 1 of the '518 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 92 of the First Amended Complaint.

93. Charter directly infringes at least claim 1 of the '518 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 93 of the First Amended Complaint.

94. Charter directly infringes at least claim 1 of the '518 Patent by making, importing, selling, and/or offering for sale the Accused MoCA Instrumentalities in connection with providing the Accused Services over an on-premises coaxial cable network, which meets every limitation of at least claim 1 of the '518 Patent.

ANSWER: Charter denies the allegations in paragraph 94 of the First Amended Complaint.

95. Charter had knowledge of '518 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. *See* Exhibit A. Charter denies the remaining allegations in paragraph 95 of the First Amended Complaint.

96. Charter has been aware that it infringes the '518 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. *See* Exhibit A. Charter denies the remaining allegations in paragraph 96 of the First Amended Complaint.

97. Charter has known of or has been willfully blind to the '518 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 97 of the First Amended Complaint.

98. The '518 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 98 of the First Amended Complaint.

99. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '518 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 99 of the First Amended Complaint.

100. The claims of the '518 Patent are essential to practicing at least MoCA standards versions 1.0, 1.1, and/or 2.0.

ANSWER: The allegations of paragraph 100 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 100 of the First Amended Complaint, and therefore denies the same.

101. Charter knew, or was willfully blind to the fact that the technology of the '518 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '518 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.0, 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '518 Patent.

ANSWER: Charter denies the allegations in paragraph 101 of the First Amended Complaint.

102. Since learning of the '518 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 102 of the First Amended Complaint.

103. Charter's customers and subscribers directly infringe at least claim 1 of the '518 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 103 of the First Amended Complaint.

104. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 104 of the First Amended Complaint.

105. For example, Charter actively induces infringement of at least claim 1 of the '518 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '518 Patent.

ANSWER: Charter denies the allegations in paragraph 105 of the First Amended Complaint.

106. Charter aids, instructs, supports, and otherwise acts with, the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 1 of the '518 Patent.

ANSWER: Charter denies the allegations in paragraph 106 of the First Amended Complaint.

107. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 1 of the '518 Patent.

ANSWER: Charter denies the allegations in paragraph 107 of the First Amended Complaint.

108. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user necessarily directly infringes at least claim 1 of the '518 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 108 of the First Amended Complaint.

109. Charter's inducement of, and contribution to, the direct infringement of at least claim 1 of the '518 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 109 of the First Amended Complaint.

110. Charter's infringement of the '518 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 110 of the First Amended Complaint.

111. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 111 of the First Amended Complaint.

112. Upon information and belief, there is no duty to mark any instrumentality with the '518 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 112 of the First Amended Complaint, and therefore denies the same.

COUNT II

(Infringement of the '249 Patent)

113. Entropic incorporates by reference each allegation of Paragraphs 1 through 112.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 112 of the First Amended Complaint.

114. The '249 Patent duly issued on September 22, 2009 from an application filed July 21, 2001, and a provisional application filed May 4, 2001.

ANSWER: Charter admits that the face of the '249 patent bears an issue date of September 22, 2009, a filing date of July 21, 2001, and lists related application data including a provisional application filed on May 4, 2001. Charter lacks knowledge or information sufficient

to form a belief about the truth of the remaining allegations in paragraph 114 of the First Amended Complaint, and therefore denies the same.

115. Entropic owns all substantial rights, interest, and title in and to the '249 Patent, including the sole and exclusive right to prosecute this action and enforce the '249 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 115, and therefore denies the same.

116. The '249 Patent is one of the Network Patents, and is generally directed to, *inter alia*, broadband cable networks that allow devices to communicate directly over the existing coaxial cable with its current architecture without the need to modify the existing cable infrastructure. Each device communicates with the other devices in the network and establishes parameters to overcome channel impairments in the coaxial cable network. '249 Patent, col. 3, lines 11-22. The '249 Patent has 17 claims, of which claims 1, 5, and 10 are independent. At least these claims of the '249 Patent are directed to the creation of the MoCA network using the on-premises coaxial cable wiring. A true and accurate copy of the '249 Patent is attached hereto as Exhibit 3.

ANSWER: Charter admits that Exhibit 3 purports to be a copy of the '249 patent. Charter admits that the '249 patent has 17 claims on its face and that claims 1, 5, and 10 on the face of the '249 patent are independent claims. Charter denies the remaining allegations in paragraph 116 of the First Amended Complaint.

117. The '249 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 117.

118. The '249 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 118.

119. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 119 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 119 of the First Amended Complaint, and therefore denies the same.

120. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 120 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 120 of the First Amended Complaint, and therefore denies the same.

121. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 121 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 121 of the First Amended Complaint, and therefore denies the same.

122. As set forth in the attached non-limiting claim chart (Exhibit 4), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 10 of the '249 Patent.

ANSWER: Charter admits that Exhibit 4 purports to be an “Exemplary Infringement Chart” relating to the '249 patent. Charter denies the remaining allegations in paragraph 122 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '249 patent.

123. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 123 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 123, and therefore denies the same.

124. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 124 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 124, and therefore denies the same.

125. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1., and/or 2.0, as described in the '249 Patent claim chart, Exhibit 4.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 125, and therefore denies the same.

126. Charter therefore directly infringes at least claim 10 of the '249 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 126 of the First Amended Complaint.

127. Charter directly infringes at least claim 10 of the '249 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 127 of the First Amended Complaint.

128. Charter directly infringes at least claim 10 of the '249 Patent by making, importing, selling, and/or offering for sale the Accused MoCA Instrumentalities in connection with providing the Accused Services over an on-premises coaxial cable network, which meets every limitation of at least claim 10 of the '249 Patent.

ANSWER: Charter denies the allegations in paragraph 128 of the First Amended Complaint.

129. Charter had knowledge of the '249 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. *See* Exhibit A. Charter denies the remaining allegations in paragraph 129 of the First Amended Complaint.

130. Charter has been aware that it infringes the '249 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 130 of the First Amended Complaint.

131. Charter has known of or has been willfully blind to the '249 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 131 of the First Amended Complaint.

132. The '249 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 132 of the First Amended Complaint.

133. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '249 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 133 of the First Amended Complaint.

134. The claims of the '249 Patent are essential to practicing at least MoCA standards versions 1.0, 1.1, and/or 2.0.

ANSWER: The allegations of paragraph 134 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 134, and therefore denies the same.

135. Charter knew, or was willfully blind to the fact that the technology of the '249 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '249 Patent. Because of its familiarity with, and

access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.0, 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '249 Patent.

ANSWER: Charter denies the allegations in paragraph 135 of the First Amended Complaint.

136. Since learning of the '249 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 136 of the First Amended Complaint.

137. Charter's customers and subscribers directly infringe at least claim 10 of the '249 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 137 of the First Amended Complaint.

138. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 138 of the First Amended Complaint.

139. For example, Charter actively induces infringement of at least claim 10 of the '249 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '249 Patent.

ANSWER: Charter denies the allegations in paragraph 139 of the First Amended Complaint.

140. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 10 of the '249 Patent.

ANSWER: Charter denies the allegations in paragraph 140 of the First Amended Complaint.

141. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 10 of the '249 Patent.

ANSWER: Charter denies the allegations in paragraph 141 of the First Amended Complaint.

142. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user necessarily directly infringes at least claim 10 of the '249 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 142 of the First Amended Complaint.

143. Charter's inducement of, and contribution to, the direct infringement of at least claim 10 of the '249 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 143 of the First Amended Complaint.

144. Charter's infringement of the '249 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 144 of the First Amended Complaint.

145. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 145 of the First Amended Complaint.

146. Upon information and belief, this is no duty to mark any instrumentality with the '249 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 146 of the First Amended Complaint, and therefore denies the same.

COUNT III

(Infringement of the '759 Patent)

147. Entropic incorporates by reference each allegation of Paragraphs 1 through 146.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 146 of the First Amended Complaint.

148. The '759 Patent duly issued on February 15, 2011 from an application filed July 12, 2004, an application filed August 29, 2002, and, *inter alia* a provisional application filed August 30, 2001.

ANSWER: Charter admits that the face of the '759 patent bears an issue date of February 15, 2011, a filing date of July 12, 2004, and lists related application data including an application filed on August 29, 2002, and a provisional application filed on August 30, 2001. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 148 of the First Amended Complaint, and therefore denies the same.

149. Entropic owns all substantial rights, interest, and title in and to the '759 Patent, including the sole and exclusive right to prosecute this action and enforce the '759 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 149, and therefore denies the same.

150. The '759 Patent is one of the Node Admission Patents, and is generally directed to, *inter alia*, broadband cable networks that allow devices to communicate directly over the existing coaxial cable with its current architecture without the need to modify the existing cable infrastructure. Each device communicates with the other devices in the network and establishes a common modulation scheme between the devices in the network. '759 Patent, Abstract. The '759 Patent has 22 claims, of which claims 1-7, 14, 20-22 are independent. At least these claims of the '759 Patent are directed to a variety of techniques for establishing a modulation scheme for communications between nodes in the MoCA network. A true and correct copy of the '759 Patent is attached hereto as Exhibit 5.

ANSWER: Charter admits that Exhibit 5 purports to be a copy of the '759 patent. Charter further admits that claims 1-7, 14, and 20-22 on the face of the '759 patent are independent claims. Charter denies that the '759 patent has 22 claims on its face. Charter denies the remaining allegations in paragraph 150.

151. The '759 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 151.

152. The '759 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 152.

153. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 153 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 153 of the First Amended Complaint, and therefore denies the same.

154. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 154 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 154 of the First Amended Complaint, and therefore denies the same.

155. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 155 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 155 of the First Amended Complaint, and therefore denies the same.

156. As set forth in the attached non-limiting claim chart (Exhibit 6), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 2 of the '759 Patent.

ANSWER: Charter admits that Exhibit 6 purports to be an "Exemplary Infringement Chart" relating to the '759 patent. Charter denies the remaining allegations in paragraph 156 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '759 patent.

157. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 157 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 157, and therefore denies the same.

158. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 158 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 158, and therefore denies the same.

159. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1, and/or 2.0, as described in the '759 Patent claim chart, Exhibit 6.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 159, and therefore denies the same.

160. Charter therefore directly infringes at least claim 2 of the '759 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 160 of the First Amended Complaint.

161. Charter sells the Accused Services to its customers and subscribers for a fee. Pursuant to the sale of these services, Charter uses the method recited in at least claim 2 of the '759 Patent to provide the Accused Services to Charter's customers and subscribers through the Accused MoCA Instrumentalities. Charter is therefore engaging in the infringing use of at least claim 2 of the '759 Patent in order to generate revenue from its customers and subscribers.

ANSWER: Charter admits that it offers products and services to customers for a fee. Charter denies the remaining allegations in paragraph 161 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '759 patent.

162. Charter directly infringes at least claim 2 of the '759 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 162 of the First Amended Complaint.

163. Charter had knowledge of the '759 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 163 of the First Amended Complaint.

164. Charter has been aware that it infringes the '759 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 164 of the First Amended Complaint.

165. Charter has known of or has been willfully blind to the '759 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 165 of the First Amended Complaint.

166. The '759 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 166 of the First Amended Complaint.

167. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '759 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 167 of the First Amended Complaint.

168. The claims of the '759 Patent are essential to practicing at least MoCA standards versions 1.0, 1.1, and/or 2.0.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 168 of the First Amended Complaint, and therefore denies the same.

169. Charter knew, or was willfully blind to the fact that the technology of the '759 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '759 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.0, 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '759 Patent.

ANSWER: Charter denies the allegations in paragraph 169 of the First Amended Complaint.

170. Since learning of the '759 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 170 of the First Amended Complaint.

171. Charter's customers and subscribers directly infringe at least claim 2 of the '759 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 171 of the First Amended Complaint.

172. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 172 of the First Amended Complaint.

173. For example, Charter actively induces infringement of at least claim 2 of the '759 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '759 Patent.

ANSWER: Charter denies the allegations in paragraph 173 of the First Amended Complaint.

174. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 2 of the '759 Patent.

ANSWER: Charter denies the allegations in paragraph 174 of the First Amended Complaint.

175. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 2 of the '759 Patent.

ANSWER: Charter denies the allegations in paragraph 175 of the First Amended Complaint.

176. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user necessarily directly infringes at least claim 2 of the '759 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 176 of the First Amended Complaint.

177. Charter's inducement of, and contribution to, the direct infringement of at least claim 2 of the '759 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 177 of the First Amended Complaint.

178. Charter's infringement of the '759 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 178 of the First Amended Complaint.

179. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 179 of the First Amended Complaint.

180. Upon information and belief, there is no duty to mark any instrumentality with the '759 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 180 of the First Amended Complaint, and therefore denies the same.

COUNT IV

(Infringement of the '802 Patent)

181. Entropic incorporates by reference each allegation of Paragraphs 1 through 180.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 180 of the First Amended Complaint.

182. The '802 Patent duly issued on December 27, 2011 from an application filed December 2, 2005, and a provisional application filed December 2, 2004.

ANSWER: Charter admits that the face of the '802 patent bears an issue date of December 27, 2011, a filing date of December 2, 2005, and lists related application data including a provisional application filed on December 2, 2004. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 182, and therefore denies the same.

183. Entropic owns all substantial rights, interest, and title in and to the '802 Patent, including the sole and exclusive right to prosecute this action and enforce the '802 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 183, and therefore denies the same.

184. The '802 Patent is one of the Node Admission Patents, and is generally directed to, *inter alia*, broadband cable networks that allow devices to communicate directly over the existing coaxial cable with its current architecture without the need to modify the existing cable infrastructure. Each device communicates with the other devices in the network and establishes the best modulation and other transmission parameters that is optimized and periodically adapted to the channel between each pair of devices. '802 Patent, col. 4, lines 7-24. The '802 Patent has four claims, all of which are independent. At least these claims of the '802 Patent are directed to a variety of techniques for establishing a modulation scheme for communications between nodes in the MoCA network. A true and accurate copy of the '802 Patent is attached hereto as Exhibit 7.

ANSWER: Charter admits that Exhibit 7 purports to be a copy of the '802 patent. Charter further admits that the '802 patent purports to have four claims on its face, all of which are independent. Charter denies the remaining allegations in paragraph 184.

185. The '802 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 185.

186. The '802 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 186.

187. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 187 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 201, and therefore denies the same.

188. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 188 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 202, and therefore denies the same.

189. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 189 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 203, and therefore denies the same.

190. As set forth in the attached non-limiting claim chart (Exhibit 8), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 3 of the ’802 Patent.

ANSWER: Charter admits that Exhibit 8 purports to be an “Exemplary Infringement Chart” relating to the ’802 patent. Charter denies the remaining allegations in paragraph 190 of

the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '802 patent.

191. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 191 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 191, and therefore denies the same.

192. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 192 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 192, and therefore denies the same.

193. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1, and/or 2.0, as described in the '802 Patent claim chart, Exhibit 8.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 193, and therefore denies the same.

194. Charter therefore directly infringes at least claim 3 of the '802 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 194 of the First Amended Complaint.

195. Charter sells the Accused Services to its customers and subscribers for a fee. Pursuant to the sale of these services, Charter uses the method recited in at least claim 3 of the '802 Patent to provide the Accused Services to Charter's customers and subscribers through the Accused MoCA Instrumentalities. Charter is therefore engaging in the infringing use of at least claim 3 of the '802 Patent in order to generate revenue from its customers and subscribers.

ANSWER: Charter admits that it offers products and services to customers for a fee. Charter denies the remaining allegations in paragraph 195 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '802 patent.

196. Charter directly infringes at least claim 3 of the '802 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services and/or the Accused MoCA Instrumentalities.

ANSWER: Charter denies the allegations in paragraph 196 of the First Amended Complaint.

197. Charter had knowledge of the '802 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 197 of the First Amended Complaint.

198. Charter has been aware that it infringes the '802 Patent no later than its receipt of Entropic's communication sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 198 of the First Amended Complaint.

199. Charter has known of or has been willfully blind to the '802 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 199 of the First Amended Complaint.

200. The '802 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 200 of the First Amended Complaint.

201. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '802 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 201 of the First Amended Complaint.

202. The claims of the '802 Patent are essential to practicing at least MoCA standards versions 1.0, 1.1, and/or 2.0.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 202, and therefore denies the same.

203. Charter knew, or was willfully blind to the fact that the technology of the '802 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '802 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.0, 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '802 Patent.

ANSWER: Charter denies the allegations in paragraph 203 of the First Amended Complaint.

204. Since learning of the '802 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 204 of the First Amended Complaint.

205. Charter's customers and subscribers directly infringe at least claim 3 of the '802 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 205 of the First Amended Complaint.

206. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 206 of the First Amended Complaint.

207. For example, Charter actively induces infringement of at least claim 3 of the '802 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '802 Patent.

ANSWER: Charter denies the allegations in paragraph 207 of the First Amended Complaint.

208. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 3 of the '802 Patent.

ANSWER: Charter denies the allegations in paragraph 208 of the First Amended Complaint.

209. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 3 of the '802 Patent.

ANSWER: Charter denies the allegations in paragraph 209 of the First Amended Complaint.

210. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user necessarily directly infringes at least claim 3 of the '802 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 210 of the First Amended Complaint.

211. Charter's inducement of, and contribution to, the direct infringement of at least claim 3 of the '802 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 211 of the First Amended Complaint.

212. Charter's infringement of the '802 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 212 of the First Amended Complaint.

213. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 213 of the First Amended Complaint.

214. Upon information and belief, there is no duty to mark any instrumentality with the '802 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 214, and therefore denies the same.

COUNT V

(Infringement of the '450 Patent)

215. Entropic incorporates by reference each allegation of Paragraphs 1 through 214.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 214 of the First Amended Complaint.

216. The '450 Patent duly issued on January 14, 2014, from an application filed September 19, 2005 and, *inter alia*, a provisional application filed December 2, 2004.

ANSWER: Charter admits that the face of the '450 patent bears an issue date of January 14, 2014, a filing date of September 19, 2005, and lists related application data including a provisional application filed on December 2, 2004. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 216, and therefore denies the same.

217. Entropic owns all substantial rights, interest, and title in and to the '450 Patent, including the sole and exclusive right to prosecute this action and enforce the '450 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 217, and therefore denies the same.

218. The '450 Patent is one of the Link Maintenance Patents, and is generally directed to, *inter alia*, broadband cable networks that allow devices to communicate directly over the existing coaxial cable with its current architecture without the need to modify the existing cable infrastructure. Each device communicates with the other devices in the network and establishes a common modulation scheme between the devices in the network. '450 Patent, col. 4, lines 12-28. The '450 Patent has 38 claims, of which, claim 1, 8, 27, 29, and 34 are independent. At least these claims of the '450 Patent are directed to a variety of techniques for determining a common modulation scheme for communications between nodes in the MoCA network. A true and accurate copy of the '450 Patent is attached hereto as Exhibit 9.

ANSWER: Charter admits that Exhibit 9 purports to be a copy of the '450 patent. Charter admits that the '450 patent has 38 claims on its face, and that claims 1, 8, 27, 29, and 34 on the face of the '450 patent are independent claims. Charter denies the remaining allegations in paragraph 218 of the First Amended Complaint.

219. The '450 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 219.

220. The '450 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 220.

221. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 221 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 221, and therefore denies the same.

222. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 222 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 222, and therefore denies the same.

223. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 223 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 223, and therefore denies the same.

224. As set forth in the attached non-limiting claim chart (Exhibit 10), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 29 of the '450 Patent.

ANSWER: Charter admits that Exhibit 10 purports to be an "Exemplary Infringement Chart" relating to the '450 patent. Charter denies the remaining allegations in paragraph 224 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '450 patent.

225. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 225 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 225, and therefore denies the same.

226. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 226 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 240, and therefore denies the same.

227. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1, and/or 2.0, as described in the '450 Patent claim chart, Exhibit 10.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 227, and therefore denies the same.

228. Charter therefore directly infringes at least claim 29 of the '450 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 228 of the First Amended Complaint.

229. Charter sells the Accused Services to its customers and subscribers for a fee. Pursuant to the sale of these services, Charter uses the method recited in at least claim 29 of the '450 Patent to provide the Accused Services to Charter's customers and subscribers through the Accused MoCA Instrumentalities. Charter is therefore engaging in the infringing use of at least claim 29 of the '450 Patent in order to generate revenue from its customers and subscribers.

ANSWER: Charter admits that it offers products and services to customers for a fee. Charter denies the remaining allegations in paragraph 229 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '450 patent.

230. Charter directly infringes at least claim 29 of the '450 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 230 of the First Amended Complaint.

231. Charter had knowledge of the '450 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 231 of the First Amended Complaint.

232. Charter has been aware that it infringes the '450 Patent no later than its receipt of Entropic's communication sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 232 of the First Amended Complaint.

233. Charter has known of or has been willfully blind to the '450 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 233 of the First Amended Complaint.

234. The '450 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 234 of the First Amended Complaint.

235. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '450 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 235 of the First Amended Complaint.

236. The claims of the '450 Patent are essential to practicing at least MoCA standards versions 1.0, 1.1, and/or 2.0.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 236, and therefore denies the same.

237. Charter knew, or was willfully blind to the fact that the technology of the '450 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '450 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.0, 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '450 Patent.

ANSWER: Charter denies the allegations in paragraph 237 of the First Amended Complaint.

238. Since learning of the '450 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 238 of the First Amended Complaint.

239. Charter's customers and subscribers directly infringe at least claim 29 of the '450 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 239 of the First Amended Complaint.

240. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services and associated support.

ANSWER: Charter denies the allegations in paragraph 240 of the First Amended Complaint.

241. For example, Charter actively induces infringement of at least claim 29 of the '450 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '450 Patent.

ANSWER: Charter denies the allegations in paragraph 241 of the First Amended Complaint.

242. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 29 of the '450 Patent.

ANSWER: Charter denies the allegations in paragraph 242 of the First Amended Complaint.

243. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides at least the Accused MoCA Instrumentalities that create and are at least substantially all of a MoCA network to be used to infringe at least claim 29 of the '450 Patent.

ANSWER: Charter denies the allegations in paragraph 243 of the First Amended Complaint.

244. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user directly infringes at least claim 29 of the '450 Patent. The Accused MoCA Instrumentalities are especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 244 of the First Amended Complaint.

245. Charter's inducement of, and contribution to, the direct infringement of at least claim 29 of the '450 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 245 of the First Amended Complaint.

246. Charter's infringement of the '450 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 246 of the First Amended Complaint.

247. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 247 of the First Amended Complaint.

248. Upon information and belief, there is no duty to mark any instrumentality with the '450 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 248, and therefore denies the same.

COUNT VI

(Infringement of the '7,566 Patent)

249. Entropic incorporates by reference each allegation of Paragraphs 1 through 248.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 248 of the First Amended Complaint.

250. The '7,566 Patent duly issued on April 9, 2019 from an application filed February 7, 2017, an application filed September 19, 2005, and *inter alia*, a provisional application filed December 2, 2004.

ANSWER: Charter admits that the face of the '7,566 patent bears an issue date of April 9, 2019, a filing date of February 7, 2017, and lists related application data including an application filed September 19, 2005, and a provisional application filed December 2, 2004. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 250, and therefore denies the same.

251. Entropic owns all substantial rights, interest, and title in and to the '7,566 Patent, including the sole and exclusive right to prosecute this action and enforce the '7,566 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 251, and therefore denies the same.

252. The '7,566 Patent is the Network Coordinator Patent, and is generally directed to, *inter alia*, broadband cable networks that allow devices to communicate directly over the existing coaxial cable with its current architecture without the need to modify the existing cable infrastructure. Each device communicates with the other devices in the network and establishes the best modulation and other transmission parameters that is optimized and periodically adapted to the channel between each pair of devices. '7,566 Patent, col. 4, lines 23-39. The '7,566 Patent

has 20 claims, of which claims 1, 11, and 19 are independent. At least these claims of the '7,566 Patent are directed to a variety of techniques for controlling the admission of nodes in the MoCA network. A true and accurate copy of the '7,566 Patent is attached hereto as Exhibit 13.

ANSWER: Charter admits that Exhibit 13 purports to be a copy of the '7,566 patent. Charter admits that the '7,566 patent has 20 claims on its face and that claims 1, 11, and 19 on the face of the '7,566 patent are independent claims. Charter denies the remaining allegations in paragraph 252.

253. The '7,566 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 253.

254. The '7,566 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 254.

255. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 255 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 255, and therefore denies the same.

256. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 256 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 256, and therefore denies the same.

257. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 257 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 257, and therefore denies the same.

258. As set forth in the attached non-limiting claim chart (Exhibit 14), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 11 of the '7,566 Patent.

ANSWER: Charter admits that Exhibit 14 purports to be an "Exemplary Infringement Chart" relating to the '7,566 patent. Charter denies the remaining allegations in paragraph 258 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '7,566 patent.

259. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 259 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 259, and therefore denies the same.

260. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 260 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 260, and therefore denies the same.

261. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1, and/or 2.0, as described in the '7,566 Patent claim chart, Exhibit 14.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 261, and therefore denies the same.

262. Charter therefore directly infringes at least claim 11 of the '7,566 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 262 of the First Amended Complaint.

263. Charter directly infringes at least claim 11 of the '7,566 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services and/or the Accused MoCA Instrumentalities.

ANSWER: Charter denies the allegations in paragraph 263 of the First Amended Complaint.

264. Charter directly infringes at least claim 11 of the '7,566 Patent by making, importing, selling, and/or offering for sale the Accused MoCA Instrumentalities, which meet every limitation of at least claim 11 of the '7,566 Patent, in connection with providing the Accused Services over an on-premises coaxial cable network.

ANSWER: Charter denies the allegations in paragraph 264 of the First Amended Complaint.

265. Charter had knowledge of the '7,566 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 265 of the First Amended Complaint.

266. Charter has been aware that it infringes the '7,566 Patent no later than its receipt of Entropic's communication sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 266 of the First Amended Complaint.

267. Charter has known of or has been willfully blind to the '7,566 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 267 of the First Amended Complaint.

268. The '7,566 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 268 of the First Amended Complaint.

269. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '7,566 patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 269 of the First Amended Complaint.

270. The claims of the '7,566 Patent are essential to practicing at least MoCA standards versions 1.0, 1.1, and/or 2.0.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 270 of the First Amended Complaint, and therefore denies the same.

271. Charter knew, or was willfully blind to the fact that the technology of the '7,566 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '7,566 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.0, 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '7,566 Patent.

ANSWER: Charter denies the allegations in paragraph 271 of the First Amended Complaint.

272. Since learning of the '7,566 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 272 of the First Amended Complaint.

273. Charter's customers and subscribers directly infringe at least claim 11 of the '7,566 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 273 of the First Amended Complaint.

274. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services through the Accused MoCA Instrumentalities, and associated support.

ANSWER: Charter denies the allegations in paragraph 274 of the First Amended Complaint.

275. For example, Charter actively induces infringement of at least claim 11 of the '7,566 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '7,566 Patent.

ANSWER: Charter denies the allegations in paragraph 275 of the First Amended Complaint.

276. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 11 of the '7,566 Patent.

ANSWER: Charter denies the allegations in paragraph 276 of the First Amended Complaint.

277. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides, *inter alia*, the Accused MoCA Instrumentalities designed and configured to create a MoCA network and operate as nodes in the network, the use of which infringes at least claim 11 of the '7,566 Patent.

ANSWER: Charter denies the allegations in paragraph 277 of the First Amended Complaint.

278. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user directly infringes at least claim 11 of the '7,566 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 278 of the First Amended Complaint.

279. Charter's inducement of, and contribution to, the direct infringement of at least claim 11 of the '7,566 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 279 of the First Amended Complaint.

280. Charter's infringement of the '7,566 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 280 of the First Amended Complaint.

281. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 281 of the First Amended Complaint.

282. Entropic is aware of no obligation to mark any instrumentality with the '7,566 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 282, and therefore denies the same.

COUNT VII

(Infringement of the '539 Patent)

283. Entropic incorporates by reference each allegation of Paragraphs 1 through 282.

ANSWER: Charter repeats and realleges as if fully set forth herein its responses to allegations in paragraph 1 to 282 of the First Amended Complaint.

284. The '539 Patent duly issued on December 31, 2013 from an application filed September 29, 2005 and, *inter alia*, a provisional application filed December 2, 2004.

ANSWER: Charter admits that the face of the '539 patent bears an issue date of December 31, 2013, a filing date of September 29, 2005, and lists related application data including a provisional application filed on December 2, 2004. Charter lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 284, and therefore denies the same.

285. Entropic owns all substantial rights, interest, and title in and to the '539 Patent, including the sole and exclusive right to prosecute this action and enforce the '539 Patent against infringers, and to collect damages for all relevant times.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 285, and therefore denies the same.

286. The '539 Patent is one of the Link Maintenance Patents, and is generally directed to, *inter alia*, a physical layer transmitter that performs all of the necessary RF, analog and digital processing required for transmitting MAC messages between devices in a broadband cable network. '539 Patent, col. 4, lines 37-48. The '539 Patent has seven claims, of which claim 1 is independent. At least this claim of the '539 Patent is directed at a variety of techniques for monitoring and maintaining utilized modulation profiles in the MoCA network. A true and accurate copy of the '539 Patent is attached hereto as Exhibit 11.

ANSWER: Charter admits that Exhibit 11 purports to be a copy of the '539 patent. Charter admits that the '539 patent has seven claims on its face and that claim 1 is independent. Charter denies the remaining allegations in paragraph 286.

287. The '539 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter denies the allegations in paragraph 287.

288. The '539 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter admits that under 35 U.S.C. § 282, “[a] patent shall be presumed valid.” Charter denies the remaining allegations in paragraph 288.

289. Charter deploys one or more of the Accused MoCA Instrumentalities (e.g. Charter Arris DCX3510, Charter Arris DCX3520, Charter Arris DCX3600, Charter Arris DCX3200, Charter Arris DCX3220) in connection with operating and providing the Accused Services.

ANSWER: The allegations of paragraph 289 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 303, and therefore denies the same.

290. The Accused MoCA Instrumentalities deployed by Charter to customer premises remain the property of Charter while deployed.

ANSWER: The allegations of paragraph 290 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 304, and therefore denies the same.

291. The Accused MoCA Instrumentalities operate while deployed in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 291 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 291, and therefore denies the same.

292. As set forth in the attached non-limiting claim chart (Exhibit 12), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 1 of the '539 Patent.

ANSWER: Charter admits that Exhibit 12 purports to be an "Exemplary Infringement Chart" relating to the '539 patent. Charter denies the remaining allegations in paragraph 292 of the First Amended Complaint. Charter further expressly denies any allegation of infringing on any claim of the '539 patent.

293. Each aspect of the functioning of the Accused MoCA Instrumentalities described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Charter.

ANSWER: The allegations of paragraph 293 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 293, and therefore denies the same.

294. Charter provides no software, support or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused MoCA Instrumentalities while deployed to customer premises.

ANSWER: The allegations of paragraph 294 are too vague to be understood, and Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 294, and therefore denies the same.

295. The Accused MoCA Instrumentalities are compliant with MoCA 1.0, 1.1, and/or 2.0, as described in the '539 Patent claim chart, Exhibit 12.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 295, and therefore denies the same.

296. Charter therefore directly infringes at least claim 1 of the '539 Patent by using the Accused MoCA Instrumentalities to provide Accused Services to customers.

ANSWER: Charter denies the allegations in paragraph 296 of the First Amended Complaint.

297. Charter directly infringes at least claim 1 of the '539 Patent when it, for example, uses the Accused MoCA Instrumentalities to test, demonstrate or otherwise provide Accused Services.

ANSWER: Charter denies the allegations in paragraph 297 of the First Amended Complaint.

298. Charter directly infringes at least claim 1 of the '539 Patent by making, importing, selling, and/or offering for sale the Accused MoCA Instrumentalities, which meet every limitation of at least claim 1 of the '539 Patent, in connection with providing the Accused Services over an on-premises coaxial cable network.

ANSWER: Charter denies the allegations in paragraph 298 of the First Amended Complaint.

299. Charter had knowledge of the '539 Patent no later than its receipt of Entropic's communications sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 299 of the First Amended Complaint.

300. Charter has been aware that it infringes the '539 Patent no later than its receipt of Entropic's communication sent to Charter on April 27, 2022.

ANSWER: Charter admits that it received a letter from Entropic on or around April 27, 2022 which did not mention MoCA. Charter denies the remaining allegations in paragraph 300 of the First Amended Complaint.

301. Charter has known of or has been willfully blind to the '539 Patent since before the April 27, 2022 communications from Entropic.

ANSWER: Charter denies the allegations in paragraph 301 of the First Amended Complaint.

302. The '539 Patent issued while or before Charter was a member of MoCA.

ANSWER: Charter denies the allegations in paragraph 302 of the First Amended Complaint.

303. Because of Charter's knowledge of Entropic Inc.'s work and contributions related to MoCA technology, Charter had knowledge of the '539 Patent before April 27, 2022 or was willfully blind to its existence.

ANSWER: Charter denies the allegations in paragraph 303 of the First Amended Complaint.

304. The claims of the '539 Patent are essential to practicing at least MoCA standards versions 1.0, 1.1, and/or 2.0.

ANSWER: Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 304, and therefore denies the same.

305. Charter knew, or was willfully blind to the fact that the technology of the '539 Patent directly relates to networking over coaxial cable, including MoCA, at least as early as Charter became aware of the existence of the '539 Patent. Because of its familiarity with, and access to, the MoCA standards, Charter knew, or was willfully blind to the fact, that use (by Charter or its customers) of instrumentalities compliant with MoCA 1.0, 1.1, and/or 2.0 to deliver Charter services would necessarily infringe one or more claims of the '539 Patent.

ANSWER: Charter denies the allegations in paragraph 305 of the First Amended Complaint.

306. Since learning of the '539 Patent and its infringing activities, Charter has failed to cease its infringing activities.

ANSWER: Charter denies the allegations in paragraph 306 of the First Amended Complaint.

307. Charter's customers and subscribers directly infringe at least claim 1 of the '539 Patent by using the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter.

ANSWER: Charter denies the allegations in paragraph 307 of the First Amended Complaint.

308. Charter actively induces its customers' and subscribers' direct infringement by providing the Accused Services through the Accused MoCA Instrumentalities, and associated support.

ANSWER: Charter denies the allegations in paragraph 308 of the First Amended Complaint.

309. For example, Charter actively induces infringement of at least claim 1 of the '539 Patent by providing the Accused MoCA Instrumentalities to Charter customers with specific instructions and/or assistance (including installation and maintenance) regarding the instantiation of a MoCA network and the use of the Accused MoCA Instrumentalities to infringe the '539 Patent.

ANSWER: Charter denies the allegations in paragraph 309 of the First Amended Complaint.

310. Charter aids, instructs, supports, and otherwise acts with the intent to cause an end user to make and/or use the MoCA network and/or use the Accused MoCA Instrumentalities to infringe every element of at least claim 1 of the '539 Patent.

ANSWER: Charter denies the allegations in paragraph 310 of the First Amended Complaint.

311. Additionally, Charter contributes to the customers' and subscribers' direct infringement. Charter provides, *inter alia*, the Accused MoCA Instrumentalities designed and configured to create a MoCA network and operate as nodes in the network, the use of which infringes at least claim 1 of the '539 Patent.

ANSWER: Charter denies the allegations in paragraph 311 of the First Amended Complaint.

312. The Accused MoCA Instrumentalities have no substantial noninfringing uses. When an end user uses the Accused MoCA Instrumentalities in connection with the Accused Services provided by Charter, the end user directly infringes at least claim 1 of the '539 Patent. The Accused MoCA Instrumentalities are therefore especially made or especially adapted for use in an infringing manner.

ANSWER: Charter denies the allegations in paragraph 312 of the First Amended Complaint.

313. Charter's inducement of, and contribution to, the direct infringement of at least claim 1 of the '539 Patent has been, and is, continuous and ongoing through the acts described above in connection with Charter's provision of the Accused Services.

ANSWER: Charter denies the allegations in paragraph 313 of the First Amended Complaint.

314. Charter's infringement of the '539 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

ANSWER: Charter denies the allegations in paragraph 314 of the First Amended Complaint.

315. Entropic has been damaged as a result of the infringing conduct alleged above. Charter is liable to Entropic in an amount that compensates Entropic for Charter's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

ANSWER: Charter denies the allegations in paragraph 315 of the First Amended Complaint.

316. Entropic is aware of no obligation to mark any instrumentality with the '539 Patent in accordance with 35 U.S.C. § 287.

ANSWER: This paragraph calls for a legal conclusion for which no response is required. To the extent a response is required, Charter lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 316, and therefore denies the same.

AFFIRMATIVE DEFENSES

1. Charter asserts the following defenses, without assuming the burden of proof when such burden would otherwise be on Entropic. In addition to the defenses described below, Charter specifically reserves all rights to assert additional defenses as additional information becomes available.

FIRST DEFENSE

(Failure to State a Claim)

2. Entropic fails to allege facts sufficient to state a claim upon which relief may be granted against Charter.

SECOND DEFENSE

(Non-Infringement)

3. Charter does not infringe and has not infringed, either literally or under the doctrine of equivalents, either directly or indirectly any valid and enforceable claim of any of the Patents-in-Suit.

THIRD DEFENSE

(Invalidity)

4. Each of the claims of the Patents-in-Suit are invalid for failure to satisfy one or more conditions for patentability set forth in 35 U.S.C. § 101 *et seq.*, including but not limited to sections 101, 102, 103, and 112, the applicable provisions of Title 37 of the Code of Federal Regulations, and judicially created bases for invalidation, such as double patenting.

FOURTH DEFENSE

(Equitable Doctrines)

5. Entropic's claim for damages is barred, or limited by, the equitable doctrine of estoppel arising from its failure to license the Asserted Patents on FRAND terms and failure to disclose material information, as discussed further below in Comcast's Sixth and Seventh Defenses. Entropic's claim is also barred or limited by waiver, and/or other equitable doctrines.

FIFTH DEFENSE

(FRAND Limitation based on MoCA)

6. To the extent Entropic's claims of infringement relate to a standard (*e.g.*, MoCA) that carries with it an obligation to license on fair, reasonable, and non-discriminatory ("FRAND") terms, Plaintiff (or its predecessor-in-interest) made a commitment to license the Patents-in-Suit pursuant to FRAND terms and Entropic's requested relief is limited by those obligations or commitments.

7. Upon joining MoCA, Entropic was “deemed to make the RAND commitment described in this Section 5.1 . . . with respect to Essential Patent Claims that are required to use, make, have made, offer for sale, sell and import Fully Compliant Products.” IPR Policy § 5.1.1. This obligation was disclosed by Entropic Communications to the SEC: “we are required to license any of our patent claims that are essential to implement MoCA specifications to other MoCA members, who could potentially include our competitors, on reasonable and non-discriminatory licensing terms.” Form 10-K at 43 (2014). Entropic’s First Amended Complaint asserts that Entropic founded MoCA and that Charter and its predecessor-in-interest Time Warner Cable were members of MoCA as well. First Amended Complaint §§ 29, 53, and 54.

8. The MoCA IPR Policy further explains that any “Essential Patent Claim, or any patent or patent application that reasonably may contain or result in an Essential Patent Claim” which is transferred from a MoCA member to a third party “will still be made subject to this IPR Policy.” IPR Policy § 5.1.2. Furthermore, in the event that an Alliance member terminates its membership: “(i) the terminated Alliance Party shall be entitled to request or require any Alliance Party to license such Alliance Party’s Essential Patent Claims under Section 5.1 (RAND Licenses)” and “(iii) the terminated Alliance Party and its Affiliates shall, after such termination, continue to offer and to license to any other Alliance Parties the terminated Alliance Party’s (and its Affiliates’) Essential Patent Claims as provided in Sections 5.1 (RAND Licenses).” IPR Policy § 7.1.

9. Entropic’s First Amended Complaint asserts that “[t]he claims of the [Patents-in-Suit] are essential to practicing at least MoCA standards versions 1.0, 1.1, and/or 2.0. First Amended Complaint ¶¶ 100, 134, 168, 202, 236, 270, and 304. Entropic’s First Amended Complaint also asserts that “[a]s set forth in the attached non-limiting claim chart[s] (Exhibit[s] 2, 4, 6, 8, 10, 12

and 14]), any product or system operating in a MoCA network compliant with the charted provisions of MoCA 1.0, 1.1, and/or 2.0 necessarily infringes at least claim 1 of [each of the Patents-in-Suit].” First Amended Complaint ¶¶ 88, 122, 156, 190, 224, 258, and 292. Additionally, the First Amended Complaint states that “[t]he Accused MoCA Instrumentalities are compliant with the provisions of MoCA 1.0, 1.1., and/or 2.0, as described in the ’518 Patent claim chart, Exhibit 2. First Amended Complaint ¶ 91.

10. Therefore, at least the claims identified in the First Amended Complaint for each of the Patents-in-Suit are Essential Patent Claims encumbered by Entropic’s obligation to offer and/or grant to Charter a license to its MoCA Essential Patent Claims based on FRAND terms and conditions and Entropic’s ability to recover damages for infringement is limited accordingly.

SIXTH DEFENSE

(FRAND Limitation based on IEEE 1905.1)

11. To the extent Entropic’s claims of infringement relate to a standard (*e.g.*, IEEE Standard 1905.1) that carries with it an obligation to license on fair, reasonable, and non-discriminatory (“FRAND”) terms and Plaintiff (or its predecessor-in-interest) made a commitment to license the Patents-in-Suit pursuant to FRAND terms, Entropic’s requested relief is limited by those obligations or commitments.

12. The Institute of Electrical and Electronics Engineers (“IEEE”) is a standard-setting organization that produces globally applicable standards for local area networks. The IEEE requires its members to use reasonable endeavors to inform IEEE of patents that are essential to practicing its standards or technical specifications. Specifically, if any individual is aware of patent claims it believes might be Essential Patent Claims to practicing the standard, “that fact should be made known to the entire working group and duly recorded in the minutes of the working group meeting.” IEEE SA Standards Board Operations Manual § 6.3.2.

13. Upon receiving notice that IEEE Standard may require the use of a potential Essential Patent Claim, “the IEEE shall request licensing assurance, on the IEEE SA Standards Board approved Letter of Assurance form (PDF), from the patent holder or patent applicant.” Standards Board Bylaws § 6.2. The letter of assurance shall include either (1) a general disclaimer that the patent holder “will not enforce any present or future Essential Patent Claims against any person or entity making, having made, using, selling, offering to sell, or importing any Compliant Implementation that practices the Essential Patent Claims for use in conforming with the IEEE Standard;” or (2) a statement that the patent holder will provide a license to the Essential Patent Claims “without compensation or under Reasonable Rates, with other reasonable terms and conditions that are demonstrably free of any unfair discrimination to make, have made, use, sell, offer to sell, or import any Compliant Implementation that practices the Essential Patent Claims for use in conforming with the IEEE Standard.” *Id.*

14. IEEE Standard 1905.1 (“IEEE 1905.1”) entitled “IEEE Standard for a Convergent Digital Home Network for Heterogeneous Technologies,” defines an abstraction layer for multiple home network technologies.⁶ IEEE 1905.1 is a standard for intercommunication between in-home equipment, including over MoCA and WiFi. One of the key features of IEEE 1905.1 is end-to-end Quality of Service. For example, the standard states that “[t]he various DOCSIS protocol mechanisms described in this document can be used to support Quality of Service (QoS).” IEEE Std. 1905.1 § 8.1.

15. Entropic Communications, Inc., a predecessor-in-interest to the Patents-in-Suit, was a participant in the creation of IEEE 1905.1, having both submitted technical contributions or comments and participated in the vote to approve the standard. IEEE Std. 1905.1 at vi–vii (2013).

16. Entropic has not presently submitted a Letter of Assurance with regard to IEEE 1905.1, however, “no position is taken by the IEEE with respect to the existence or validity of

⁶ <https://ieeexplore.ieee.org/document/6502164>.

any patent rights in connection therewith.” *Id.* at § 6.3.1. Therefore, Entropic’s failure to submit a Letter of Assurance regarding any of its patents, does not mean that Entropic patents are not essential with respect to IEEE 1905.1.

17. The procedures, protocols and guidelines of IEEE 1905.1 “provide network management features to address issues related to neighbor discovery, topology discovery, interface selection, QoS negotiation, and network control and management. IEEE Std. 1905.1 at 1.

18. IEEE 1905.1 discloses a “topology discovery protocol [which] enables a 1905.1 management entity to discover other 1905.1 devices and IEEE 802.1 bridges, and to populate a 1905.1 topology database. This protocol also enables notification of changes in network topology.” IEEE 1905.1 at 46. This topology discovery protocol “uses the multicast discovery procedure, the unicast topology query/response procedure, and the relayed multicast topology notification procedure to enable a 1905.1 management entity to discover the network topology.” *Id.* at 47. These procedures of the topology discovery protocol use messages including a “Topology discovery message (neighbor multicast),” an “IEEE 802.1 bridge discovery message (neighbor multicast),” a “Topology query message (unicast),” a “Topology response message (unicast),” and a “Topology notification message (relayed multicast).” *Id.* at 48.

19. To the extent that Entropic’s claims of infringement relate to an IEEE 1905.1 standard that carries with it an obligation to license on FRAND terms, or the inventor or patentee made a commitment to license the ’422 patent pursuant to FRAND terms, Entropic’s monetary relief is limited by those obligations.

SEVENTH DEFENSE

(Unenforceability due to Inequitable Conduct based on Failure to Disclose Relevant Conexant References)

20. Entropic’s enforcement of at least the ’518 patent, as alleged in the First Amended Complaint, is barred as a result of inequitable conduct in the procurement of each at least this

patent. The prosecution history of the Patents-in-Suit generally show a pattern of failure on the part of Entropic (and its predecessors-in-interest) and the named inventors in their duty of candor to the USPTO, including by failing to disclose material prior art in an attempt to deceive the USPTO regarding the patentability of the purported inventions claimed in the underlying applications. Entropic's failure to disclose material prior art during prosecution of at least the '518 patent renders these Patents-in-Suit unenforceable.

21. 37 C.F.R. § 1.56 provides, in pertinent part: "Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. ... [N]o patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct."

22. 37 C.F.R. § 1.56(c) provides, in pertinent part: "Individuals associated with the filing or prosecution of a patent application within the meaning of this section are: (1) Each inventor named in the application; (2) Each attorney or agent who prepares or prosecutes the application; and (3) Every other person who is substantively involved in the preparation of prosecution of the application and who is associated with the inventor, the application, an assignee, or anyone to whom there is an obligation to assign the patent."

23. Various inventors of the Patents-in-Suit, including Anton Monk, Brett Bernath, Itzhak Gurantz, Ladd El Wardani, and Magnus Breggren, were affiliated with Conexant Systems, Inc. in the late 90s and early 2000s, before joining Entropic. While at Conexant Systems, many of

these inventors worked on prior-art systems involving data communications, including over cable and powerline networks. Several were named as inventors on prior-art patents based on their work at Conexant Systems. Despite this extensive experience, Entropic and its inventors identified virtually no prior art to the USPTO as relevant to any of the Patents-in-Suit, and in particular, with respect to the '518, patent. As a result, most of the Patents-in-Suit list only a few pieces of pertinent prior art on their face, nearly all of which was identified by the Examiner, not Entropic or the named inventors. In fact, for several of the Patents-in-Suit, Entropic did not submit an Information Disclosure Statement to the USPTO at all, and thus did not disclose any prior art to the USPTO. Yet upon information and belief, based on at least their prior work at Conexant Systems, Entropic's employees, including the named inventors, were well aware of material prior art in the space of the purported inventions.

24. On information and belief, based on their involvement in similar technologies working at Conexant Systems, the inventors were, or should have been, aware of related prior art systems and publications at Conexant Systems relevant to the putative inventions in the Patents-in-Suit. For example, U.S. Patent No. 6,570,915 (the "'915 patent"), for which the underlying application was filed on July 31, 2000, and was originally assigned to Conexant Systems. The '915 Patent discloses transmitting probe messages across a data communication network and analyzing the received probe messages to determine channel characteristics. *See, e.g.*, '915 Patent at Abstract ("After receiving the discovery response message, DTU-C transmits a probe message to DTU-R followed by a probe signal. DTU-R measures the line quality while receiving the probe Signal. After receiving the probe signal, DTU-R transmits a probe signal to DTU-C, using which signal DTU-C measures the line quality. After transmitting the probe signal, DTU-R

transmits a probe response message, including line quality measurements performed by DTU-R.”).

25. Conexant Systems was also the assignee of U.S. Patent No. 6,205,410 (the “’410 patent”). The underlying application was filed on October 13, 1998. The ’410 patent discloses selecting bit loading for data communication network transmissions based on determined channel characteristics, like signal-to-noise ratio. *See, e.g.,* ’410 Patent at 2:14–21 (“In accordance with another aspect of the present invention, a method is provided for establishing the bit loading configuration of a discrete multi-tone (DMT) transceiver comprising the steps of determining a variation in a signal-to-noise ratio for each of the channels, and, determining bit loading configuration for each of the channels based on the a variation in the signal-to-noise ratio for each of the channels.”).

26. At least asserted claim 1 from the ’518 Patent recites the same key probe-messaging arrangement from the ’915 Patent and the same bit-loading scheme based on signal-to-noise ratio characteristics from the ’410 Patent. *See, e.g.,* ’518 Patent at claim 1 (“signal-to-noise variation logic to determine a variation in a signal-to-noise ratio for each of the channels; and wherein network devices transmit probe messages through the cable wiring and analyze received probe message signals to determine channel characteristics and bit loading is selected based on the determined channel characteristics”). During prosecution of the ’518 patent, however, Entropic did not disclose any prior art to the USPTO at all, much less the ’915 or ’410 patents, or their underlying applications. Critically, in allowing the claims of the ’518 patent, the Examiner identified elements that were disclosed in the ’915 or ’410 patents. ’518 Patent, File History, 09.06.2007 Notice of Allowance at 3 (“The prior art of record ... fails to disclose a network device for communicating data to other network devices by utilizing unique method step of

determining channel characteristics and a bit loading profile used to transmit data by analyzing received probe message signals.”). Thus, but for Entropic’s failure to disclose this material information, the claims of the ’518 patent would not have been allowed.

27. Upon information and belief (and reasonable inference based on a consistent pattern of not providing prior art disclosures to the USPTO), Entropic (and its predecessors-in-interest) omitted this information with an intent to deceive the USPTO regarding the patentability of the claims in the underlying patent application that issued as the ’518 Patent. Entropic’s enforcement of at least ’518 Patent claim 1, as alleged in the First Amended Complaint is accordingly barred as a result of inequitable conduct in its procurement.

28. But for Entropic’s failure to disclose this material information, the claims of at least the ’518 patent would not have been allowed. Entropic’s conduct during the prosecution of these Patents-in-Suit constitutes inequitable conduct and renders these Patents-in-Suit unenforceable.

EIGHTH DEFENSE

(No Willful Infringement)

29. Entropic is not entitled to enhanced or increased damages for willful infringement because Charter has not engaged in any conduct that meets the standard for willful infringement (nor has Entropic alleged any such conduct).

RESERVATION OF RIGHTS

Charter specifically reserves the right to assert additional defenses permitted under the Federal Rules of Civil Procedure, the patent laws of the United States, the Local Rules of this District, and/or at law or in equity, as they may now exist, be discovered, or otherwise become available based on discovery and further investigation in this case.

PRAYER FOR RELIEF

WHEREFORE, Charter requests the following relief:

- A. Dismissal with prejudice of Plaintiff's First Amended Complaint in its entirety;
- B. Denial of all remedies sought by Entropic in this First Amended Complaint;
- C. Declaration that Charter does not infringe, has not infringed, any claim of the Patents-in-Suit, either directly or indirectly, literally or under the Doctrine of Equivalents, willfully or otherwise;
- D. Declaration that all claims of the Patents-in-Suit are invalid for failing to comply with one or more of the conditions of patentability set forth in Title 35 of the United States Code, including without limitation §§ 101, 102, 103, 112 and/or 116;
- E. Declaration that the Patents-in-Suit are unenforceable against Charter in whole or in part pursuant to the covenant not to sue, and under the doctrine of waiver, acquiescence, equitable estoppel, exhaustion, implied license, unclean hands, patent misuse, prosecution history estoppel, and/or Plaintiff's failure to comply with 35 U.S.C. § 287;
- F. Declaration that this case is exceptional and that Charter is entitled to an award of reasonable attorneys' fees pursuant to 35 U.S.C. § 285;
- G. In the event any of the Patents-in-Suit are found to be valid and infringed, a declaration of an appropriate FRAND royalty license and/or royalty free license to Plaintiff's purported essential patent rights; and
- H. Any such other and further relief as the Court deems just and fair.

DEMAND FOR JURY TRIAL

Charter demands a trial by jury on all issues so triable.

Dated: November 20, 2023

Respectfully submitted,

By: /s/ Krishnan Padmanabhan

Krishnan Padmanabhan (*pro hac vice*)

kpadmanabhan@winston.com

Winston & Strawn LLP

200 Park Ave.

New York City, NY 10166

Telephone: (212) 294-3564

Facsimile: (212) 294-4700

Saranya Raghavan (*pro hac vice*)

sraghavan@winston.com

Winston & Strawn LLP

35 W. Wacker Dr.

Chicago, IL 60601

Telephone: (312) 558-5600

Facsimile: (312) 558-5700

William M. Logan

State Bar No. 24106214

wlogan@winston.com

Winston & Strawn LLP

800 Capitol Street, Suite 2400

Houston, TX 77002

Telephone: (713) 651-2766

Facsimile: (713) 651-2700

ATTORNEYS FOR DEFENDANT